

The next year, 1849, the Erie Railroad, or to use the full name by which it was then known, The New York, Lake Erie and Western, had completed the laying of its track through the Delaware Valley, but in spite of the rivalry and ill will which then existed between them, the D. & H. constructed a canal basin at the present town of Lackawaxen for the transfer of freight between the rivals. The Erie was, however, not yet a serious competitor.

#### Boat Yard At Hawley

Also in 1849 Levi Barker, anticipating the demand for many more boats to haul the coal of the Pennsylvania Coal Company, left the employ of Christopher Lane's boat works at Honesdale and established a boatyard and drydock at Hawley. He was immediately given a contract by the Pennsylvania Company for the construction of 25 deck-type boats which were to have a capacity of 140 tons in anticipation of the enlargement of the canal. These were somewhat larger in capacity than those being built for the D. & H., but were as fine as any boat ever put upon the canal and cost \$1,600 each. Barker, during the 40 years he continued in business at Hawley, built over 600 boats.

Although many hundred Irish and German laborers were brought into the country, at the time the Pennsylvania Company's Gravity road was being built, the D. & H. Company required many laborers for the work of enlargement of the canal and the Erie needed hundreds more, nevertheless, work on the Pennsylvania Gravity progressed fairly well. This newcomer

was able to profit greatly by the experience of 20 years of operation of the D. & H. Gravity line, and furthermore, iron (but not steel) rails were being conveniently manufactured by the Scranton brothers at Slocum Hollow. Thus they could avoid one great handicap which had retarded the D. & H. The road was patterned closely after the D. & H. but was much longer, 47 miles to the 17 of the early D. & H. Both the loaded track and the light track were the same length but followed widely separated routes. They were, in fact, five miles apart at one point. Much better use than in the building of the D. & H. Gravity was made of the contour of the country through which it ran, for on the loaded track one of the "levels" measured 14 miles, while one on the light track measured 21. On the loaded track there were 12 ascending planes and 10 descending "levels" but on the light track there were 10 ascending planes and 12 descending "levels".

#### Operation Of Planes

All of the motive power on the loaded track was furnished by stationary steam engines at the head of each plane but on the light track the first four planes counting west from Hawley were operated by water power obtained from Middle Creek.

Coal breakers, repair shops, storage, yards, and a canal basin were built at Hawley and for a few years that little town went through an era of prosperity matched only by the gold rush towns of the same year. Their railroad was finished and the Pennsylvania Coal Company was able to begin shipping coal from Hawley on June 8, 1850, but although the enlargement of the canal was almost entirely completed, it was not possible to load the new boats with more than one hundred tons each.

This last enlargement of the canal had been more an enlargement of the locks rather than the trunk of the canal itself, for while this latter was made navigable for 140-ton boats, this was accomplished by changing the prism of the canal by cutting out the lower portion of the sloping sides of the canal and building these up, nearly vertical, with dry stone walls. Thus while the canal was deepened and made navigable for boats of greatly increased capacity, the surface width was increased only slightly throughout most of the length of the canal. It should be remembered that, as originally constructed, the canal measured 32 feet in width at the water line, but only 20 feet wide at the bottom. The original boats had a maximum width of only eight feet, four inches, whereas the large boats had a width of 14 feet, four inches; therefore, a cross section of the canal was now only three times that of a loaded large boat, whereas in the old canal it had been at least four-and-a-half times that of the smaller boats. The result was greater resistance to be overcome in proportion to the size of the boats used.

As was to be expected, the embankments had not, during the first two years after the enlargement, become sufficiently water-tight to hold the full six-foot head of water. As a result, the large boats could be loaded only to about two-thirds of their capacity, but nevertheless, they were much slower than the many smaller boats which were still in use. Consequently, they caused considerable annoyance to the masters of the small boats, who, in spite of the rules for navigating the canal, were not "afforded reasonable facility to pass by" although the penalty for each violation of this rule was 10 dollars. Until the small boats, the 40 and 50 tonners, were finally gone from the canal, the infraction of this one rule probably caused more fights between crews than any

other one cause on this, the most business-like of all canals.

#### Enlargement Problems

The greatest amount of labor in this enlargement was expended on the locks, which had to be rebuilt throughout. The new locks were one hundred feet in length and fifteen feet wide, except the six near Summitville, which were slightly wider. The original locks had been seventy-six feet in length by nine feet wide.

The increase in the size of these locks presented a problem in itself, for while the capacity of the smaller locks had averaged 6,800 cubic feet; consequently, the loss of water each time a boat locked through was much greater. To supply this new need, in case of drought, several new reservoirs were built and the existing feeder dams were raised and improved.

The location of all of the locks remained the same, except for locks 1, 2 and 3, near the mouth of the Lackawaxen River, which had been eliminated by the construction of the two aqueducts there.

Upon completion of this enlargement the D. & H. Company decided to experiment with different type boats and accordingly purchased 40 square bowed section scows from the Lehigh Canal. It appears that the company did not depart from this practice of "Hiring out" these boats and accordingly contracted for their operation through two men, Barnes and Harlan. After a brief period of use, these scows, with their square bows, were found to offer too much resistance to the water so a more streamlined (if that word can be applied to a canal boat) bow section was built to match the stern sections with more satisfactory results. Although these section boats or "squeezers" which were really two boats hinged together, do not seem to have met with much favor on the D. & H. Canal, apparently 10 more were purchased later in the season of 1850 and to these were added new round nose bow sections, making in all 100 of these section scows now in use.